

[0396] The software component that is responsible for changes to TSAF data is tracked. The Components table 1910 contains the list of software components that can be associated with a session, as described below:

[0397] Component ID ([Component_ID]). Each component is identified by a
5 unique, numeric identifier, the Component ID.

[0398] Name ([Descr]). Each component is identified by a name.

[0399] Description. This column contains a description of a component.

[0400] Each session tracks the Entities whose data were altered by that session. This information is recorded in the Session Entities table 1920, as described below:

10 **[0401] Session ID ([Session_ID]).** Each row in the Session Entities table identifies an Entity whose data was altered by activities related to that session. The Session ID identifies the session.

[0402] Entity Class ID ([Entity_Class_ID]). Each row in the Session Entities table identifies an Entity whose data was altered by activities related to that
15 session. Each Entity is identified by a global Entity identifier, which consists of the Entity Class ID and the Entity ID.

[0403] Entity ID ([Entity_ID]). Each row in the Session Entities table identifies an
20 Entity whose data was altered by activities related to that session. Each Entity is identified by a global Entity identifier, which consists of the Entity Class ID and the Entity ID.

[0404] Each session tracks the Attributes that might be altered during that session. This information is recorded in the Session Attributes table 1930, as described below:

[0405] Session ID ([Session_ID]). Each row in the Session Attributes table identifies an Attribute whose data was available for modification during a session. The session ID identifies that session.

[0406] Attribute ID ([Attribute_ID]). Each row in the Session Attributes table identifies an Attribute whose data was available for modification during a session. The Attribute ID identifies that Attribute.

The Lock Data

[0407] One of the features that helps support data maintenance activities is data locking, which prevents other users from modifying data if a user has checked out the data in order to perform off-line data maintenance. This task is accomplished by creating a data lock, associating specific Entities and Attributes with the lock, and preventing other users from altering the selected Attributes of the selected Entities until the lock is released. The lock information is stored in the Lock Data, which is depicted in Figure 20.

[0408] The relationships between these tables are described below:

[0409] Locks lock Lock Entities. Each lock only applies to a specific set of Entities, as specified in the Lock Entities table 2010. This relationship identifies the Entities associated with a lock.

[0410] Locks lock Lock Attributes. Each lock only applies to a specific set of Attributes, as specified in the Lock Attributes table 2020. This relationship identifies the Attributes associated with a lock.

- 5 **[0411]** The data is locked by creating a lock and associating this lock with a set of Entities and Attributes. The locks table 2000 defines the currently active locks. Locks that are no longer active are deleted from this table.

[0412] Lock ID. Each lock is identified by a unique, numeric identifier, the Lock ID.

- 10 **[0413] User ID.** Each lock is created by the data maintenance activities of a specific user. The User ID identifies the user responsible for a lock. Only the user responsible for a lock or a system administrator can remove a lock.

[0414] Start Time. Each lock begins at a fixed time. The Start Time identifies when a lock began.

- 15 **[0415] End Time.** Each lock is scheduled to expire at a fixed time. The End Time identifies when a lock is scheduled to expire. Note that a lock is not automatically retired when the End Time passes; instead, this field is used to identify unintended locks so that a system administrator can manually remove these locks.

- 20 **[0416]** Each lock affects a specified collection of Entities and a specified selection of Attributes of those Entities. The Lock Entities table 2010 records the Entities that are affected by a lock.